

## CLAIMS

What is claimed is:

- 1           1.     A network processor comprising:  
2                 a plurality of standard cells; and  
3                 at least one field programmable gate array (FPGA) cell that can communicate  
4           with at least one of the standard cells, wherein the FPGA cell allows for customization of the  
5           network processor.
- 6           2.     The network processor of claim 1, wherein the at least one FPGA cell can  
7           provide a specified function based upon field programming techniques to allow for  
8           customization of the network processor.
- 9           3.     The network processor of claim 1 wherein the plurality of standard cells are  
10           utilized for common logic and the at least one FPGA cell is utilized for high risk logic.
- 11          4.     A method for customizing a network processor; comprising the steps of:  
12                 (a)     providing at least one field programmable gate array (FPGA) cell  
13           within the network processor;  
14                 (b)     providing a custom logic file for the vendor of the network processor by  
15           a customer of the network processor; and  
16                 (c)     programming the at least one FPGA cell, the vendor based upon the  
17           custom logic bill to provide a customized network processor.

1           5.     The method of claim 4 wherein step (b) further comprises (b1) providing a  
2 verification module within the custom logic file.

1           6.     The method of claim 4 which includes step (c) verifying the customized  
2 network processor based upon the verification module.

1           7.     A network processor comprising:  
2 a plurality of standard cells, the plurality of standard cells comprising common logic;  
3 a plurality of FPGA cells, the plurality of FPGA cells comprising high risk logic; and  
4 at least one bus coupled to a portion of the standard cells and portion of the FPGA  
5 cells, wherein each of the plurality of FPGA cells allows for customization of the network  
6 processor.

7           8.     The network processor of claim 7, wherein the plurality of cells each can  
8 provide a specified function based upon field programming techniques to allow for  
9 customization of the network processor.

1           9.     The network processor of claim 7 wherein the at least one bus comprises a  
2 processor local bus (PLB) and two on-chip peripheral buses (OPBs).

1           10.    The network processor of claim 9 wherein the FPGA cells coupled to the PLB  
2 comprise an accelerator function and a PLB master/slave function.

1           11.     The network processor of claim 9 wherein the FPGA cells coupled to one of the  
2 two OPBs are media interfaces.

1           12.     The network processor of claim 9 wherein the FPGA cells coupled to the other  
2 of the two OPBs are a GPIO preprocessor function and an OPB master/slave function.

1           13.     A network processor comprising:  
2 a plurality of standard cells, the plurality of standard cells comprising common logic;  
3 a plurality of FPGA cells, the plurality of FPGA cells comprising high risk logic; and  
4 a processor local bus (PLB) and two on-chip peripheral buses (OPBs) coupled to a portion of  
5 the standard cells and portion of the FPGA cells, wherein the FPGA cells coupled to the  
6 PLB comprise an accelerator function and a PLB master/slave function; wherein the FPGA  
7 cells coupled to one of the two OPBs are media interfaces; wherein the FPGA cells coupled  
8 to the other of the two OPBs are a GPIO preprocessor function and an OPB master/slave  
9 function; wherein the plurality of cells each can provide a specified function based upon  
10 field programming techniques to allow for customization of the network processor.